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COMMITTEE ON THE PEACEFUL
USES OF OUTER SPACE

REPORT OF THE LEGAL SUB-COMMITTEE ON THE WORK OF ITS TWENTY-NINTH SESSION (2-20 APRIL 1989)

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INTRODUCTION

Opening of the session

1. The Legal Sub-Committee held its twenty-ninth session at the United Nations Office at Geneva from 2 to 20 April 1990.

2. At the 529th meeting, on 3 April 1990, the Sub-Committee elected Mr. Vaclav Mikulka (Czechoslovakia) to succeed Mr. Stanislav Suja (Czechoslovakia) as Chairman of the Sub-Committee. The Sub-Committee expressed its appreciation and gratitude to Mr. Suja, who had skilfully and ably guided the work of the Sub-Committee during his term as Chairman.

3. At the same meeting, the Sub-Committee elected Mr. Hans Winkler (Austria) to be temporary Chairman until Mr. Mikulka's arrival at Geneva.

Adoption of the agenda

4. The General Assembly, in paragraph 4 of its resolution 44/46 of 8 December 1989, endorsed the recommendations of the Committee on the Peaceful Uses of Outer Space 1/ that, at its twenty-ninth session, the Legal Sub-Committee, taking into account the concerns of all countries, particularly those of developing countries, should: (a) continue, through its working group, the elaboration of draft principles relevant to the use of nuclear power sources in outer space; (b) continue, through its working group, its consideration of matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union (ITU); and (c) continue its consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries.

5. At its 529th meeting, on 3 April 1990, the Sub-Committee adopted the following agenda (A/AC.105/C.2/L.176):

1. Opening of the session.

2. Statement by the Chairman.

3. The elaboration of draft principles relevant to the use of nuclear power sources in outer space.

4. Matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union.

5. Consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries.

6. In addition, at the same meeting, the Sub-Committee adopted the schedule of meetings annexed to the provisional agenda, subject to the following changes: the items for the morning and afternoon of Monday, 2 April, were deleted since that time had been used for informal consultations; the morning of Tuesday, 3 April, was allocated for the election of the Chairman and organization of work; the morning and afternoon of Friday, 6 April, were allocated for the item on nuclear power sources; the morning of Tuesday, 10 April, was allocated for the item on definition/geostationary orbit; the morning of Wednesday, 11 April, was allocated for the adoption of the report of the Working Group on agenda item 3; the morning of Thursday, 12 April, was allocated for the item on definition/geostationary orbit. The schedule of meetings contained in the provisional agenda is set out in annex III, section B.2 to the present report.

Attendance

7. Representatives of the following States members of the Sub-Committee attended the session: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Czechoslovakia, Ecuador, Egypt, France, German Democratic Republic, Germany, Federal Republic of, Hungary, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Kenya, Lebanon, Mexico, Mongolia, Morocco, Netherlands, Nigeria, Pakistan, Philippines, Poland, Romania, Sweden, Syrian Arab Republic, Turkey, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Venezuela, Viet Nam and Yugoslavia.

8. Representatives of the following specialized agencies and international organizations attended the session: International Atomic Energy Agency (IAEA), ITU, European Space Agency (ESA), the Council on International Co-operation in the Study and Utilization of Outer Space (INTERCOSMOS) and International Astornaturical Federation (IAF).

9. The temporary Chairman informed the Sub-Committee at its 529th meeting, and the Chairman informed the Sub-Committee at its 530th meeting, on 4 April, and at its 534th meeting, on 12 April, that requests to participate in meetings of the Sub-Committee had been received from Cuba, Greece, Spain, the Libyan Arab Jamahiriya and Peru. The Sub-Committee agreed that, since the granting of observer status was the prerogative of the Committee on the Peaceful Uses of Outer Space, the Sub-Committee could take no formal decision on the matter, but that the representatives of Cuba, Greece, Spain, the Libyan Arab Jamahiriya and Peru might attend the formal meetings of the Sub-Committee and could direct requests for the floor to the Chairman, should they wish to make statements.

10. A list of representatives of States members of the Sub-Committee, States not members of the Sub-Committee, specialized agencies and other organizations attending the session, and of the secretariat of the Sub-Committee, is contained in document A/AC.105/C.2/INF.22.

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Organization of work

11. In accordance with decisions taken at its 529th meeting, the Sub-Committee organized its work as follows:

(a) It considered the three substantive items on its agenda in the order in which they appeared therein (see para. 5 above);

(b) It re-established its Working Group on agenda item 3, open to all members of the Sub-Committee, and agreed that Mr. Hans Winkler, the representative of Austria, should serve as its Chairman;

(c) It re-established its Working Group on agenda item 4, open to all members of the Sub-Committee, and agreed that Mr. Estanislao Zawels, the representative of Argentina, should serve as its Chairman;

(d) It established its Working Group on agenda item 5, open to all members of the Sub-Committee, to be convened at the thirtieth session of the Sub-Committee and agreed, at its 535th meeting that Mr. Raimundo González, the representative of Chile, should serve as its Chairman;

(e) It began its work with a plenary meeting to hear delegations wishing to address the Sub-Committee, and then adjourned and reconvened, when appropriate, as a working group, or began its work as a working group.

12. The following delegations participated in the general exchange of views: Argentina, Brazil, Bulgaria, Chile, China, Colombia, Cuba, Czechoslovakia, Ecuador, France, German Democratic Republic, India, Indonesia, Japan, Mexico, Netherlands, Nigeria, Soviet Union, United Kingdom and United States as well as IAF. The views expressed by those delegations are summarized in documents A/AC.105/C.2/SR.529-533, and 535.

13. The Working Group on agenda item 3 held seven meetings. The Working Group on agenda item 4 held five meetings.

14. The Chairmen of the working groups reported to the Sub-Committee at its 538th meeting, on 20 April 1990 (see annexes I and II to the present report). The Sub-Committee took note with appreciation of the reports and of the work done in the working groups.

15. At the 529th meeting, the temporary Chairman of the Sub-Committee made a statement concerning the utilization of conference services by the Sub-Committee. He drew attention to the importance the General Assembly and the Committee on Conferences attached to the economical utilization of conference services by all United Nations deliberative bodies, particularly in view of the current financial constraints on the Organization. The temporary Chairman noted that the percentage of the use of conference services by the Sub-Committee had improved at its past three sessions. However, he believed that there was still room for further improvement in that field. In that connection the temporary Chairman referred, in particular, to the letter dated 31 January 1990 from the former Chairman of the

Sub-Committee to the Under-Secretary-General for Conference Services and Special Assignments, which is set out in section B.1 of annex III to the present report. Based on that letter, the temporary Chairman proposed and the Sub-Committee agreed on the following measures to be adopted at the current session of the Sub-Committee:

(a) The Sub-Committee and its working groups should begin their meetings punctually at the scheduled time, even if there was no quorum (14 members);

(b) The Department of Conference Services should be notified as early as possible whenever it was anticipated that any of the services usually provided were not going to be required. If possible, there should be 24 hours prior notice;

(c) Informal consultations (i.e., outside the auspices of the Sub-Committee and its working groups) should not interrupt the work of the Sub-Committee or its working groups;

(d) The general rule for annexing documents to the report of the Sub-Committee should be that normally any document would be annexed, if at all, only once - to the report of the session in which it was first submitted, but not to later reports;

(e) The Sub-Committee should not have plenary meetings in the afternoons when the agenda items on nuclear power sources and on the definition of outer space/geostationary orbit were considered. Instead, the working groups on these items should meet;

(f) Delegations wishing to speak at the Sub-Committee's next plenary meeting should inform the Chairman of their intention before the adjournment of the previous plenary meeting. If no such information was received by the Chairman, the next plenary meeting of the Sub-Committee should be cancelled, and a working group should meet instead;

(g) The Sub-Committee and its working groups should seek to schedule in advance informal consultations at which conference services would not be used. For that purpose, the Sub-Committee and its working groups should decide as early as possible whether it was feasible to cancel in advance some of their formal meetings in order to have informal consultations among interested delegations. That measure, if adopted, should not preclude resorting to unscheduled informal consultations following a decision of the Sub-Committee or a working group, if such consultations were deemed necessary for attaining progress in deliberations.

16. As for specific steps to implement the measure indicated in subparagraph 15 (g) above, the temporary Chairman proposed and the Sub-Committee agreed not to schedule six formal afternoon meetings on 4, 5, 9, 10, 17 and 18 April so that informal consultations among interested delegations could be held instead.

17. The Sub-Committee expressed its appreciation for the work done by the Secretariat in proposing the schedule of work for the current session of the Sub-Committee, as contained in document A/AC.105/C.2/L.176, and for the proposals for improving the Sub-Committee's organization of work contained in the letter

dated 31 January 1990 from Mr. Stanislav Suja, former Chairman of the Sub-Committee to Mr. Eugeniusz Wyzner, Under-Secretary-General for Conference Services and Special Assignments. In that regard, the Sub-Committee agreed that a similar organization of work as agreed upon at the current session would again serve as the basis for organizing the work of the Sub-Committee's thirtieth session. The Sub-Committee further agreed that the order of consideration of agenda items at the next session of the Sub-Committee should be studied, if found necessary.

18. The Sub-Committee took note of General Assembly resolution 44/201 B of 21 December 1989, section III of which concerned, inter alia, the question of the venue of the Sub-Committee's future sessions. The Sub-Committee was of the view that the provisions of that resolution should be taken into account by the Committee on the Peaceful Uses of Outer Space which will meet in June 1990 in New York and will make recommendations concerning, among other things, the programme of future work of the Legal Sub-Committee, including the dates and venues of Sub-Committee meetings.

19. In the course of a general exchange of views, some delegations expressed grave concern over the threat of extending the arms race into outer space. They believed that every effort should be made to avert that danger and that the Committee on the Peaceful Uses of Outer Space, as well as its sub-committees, could make important contributions in that regard, playing a supportive role for other international forums dealing with the problem of preventing an arms race in outer space. The delegations pointed out, in particular, that the Legal Sub-Committee, having elaborated the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, containing a number of important restrictions on certain military uses of outer space, was sufficiently competent to consider the question of the prevention of an arms race in outer space.

20. Other delegations, in the course of a general exchange of views, expressed the view that disarmament questions did not fall within the competence of either the Committee on the Peaceful Uses of Outer Space or its subsidiary bodies. They pointed out that the question of the prevention of an arms race in outer space was properly a matter for the Conference on Disarmament. They were of the view that the Committee and its sub-committees should not be distracted from the task of promoting international co-operation in the peaceful uses of outer space by being drawn into the areas belonging to the mandate of other forums.

21. The Sub-Committee held a total of 12 meetings. The views expressed at those meetings are summarized in documents A/AC.105/C.2/SR.527 to 538.

22. At its 538th meeting, on 20 April 1990, the Sub-Committee adopted the present report and concluded the work of its twenty-ninth session.

I. THE ELABORATION OF DRAFT PRINCIPLES RELEVANT TO THE USE OF NUCLEAR POWER SOURCES IN OUTER SPACE (AGENDA ITEM 3)

23. As noted in paragraph 11 (b) above, the Sub-Committee, at its 529th meeting, re-established its Working Group on agenda item 3 under the chairmanship of Mr. H. Winkler, the representative of Austria.

24. At the same meeting, the temporary Chairman proposed and the Sub-Committee agreed that the Working Group should commence its work immediately, and that the Sub-Committee should commence its consideration of agenda item 3 upon the arrival of the Sub-Committee's Chairman at Geneva.

25. The Sub-Committee commenced the consideration of agenda item 3 at its 530th meeting, on 4 April 1990.

26. The Sub-Committee noted that the subject of the use of nuclear power sources in outer space had been under consideration in the Scientific and Technical Sub-Committee at its twenty-seventh session in 1990, and that the relevant parts of the report of that Sub-Committee were contained in document A/AC.105/456, paragraphs 57-60 and annex III.

27. The Legal Sub-Committee had before it a working paper submitted at its previous session by the delegation of Canada (A/AC.105/C.2/L.154/Rev.5) and a working paper submitted at its current session by the delegations of Canada, the Federal Republic of Germany and France (A/AC.105/C.2/L.177). These working papers are set out in sections A.1 and 2 of annex III to the present report.

28. The Sub-Committee agreed to annex to its report the working paper submitted by Canada on 17 April 1990, as published in document A/AC.105/C.2/L.154/Rev.6 (see sect. A.3 of annex III to the present report). The Sub-Committee also agreed to the suggestion put forward by the delegation of Canada that an informal meeting of interested delegations be held in New York during the first week of the meeting of the Committee in June 1990 with a view to proceeding to a first exchange of views on the above-mentioned document and to paving the way for further constructive work at the next session of the Sub-Committee.

29. The views expressed by delegations during the debate on agenda item 3 are contained in summary records A/AC.105/C.2/SR.530 to 532 and 538.

30. At the 538th meeting of the Sub-Committee, on 20 April 1990, the Chairman of the working group reported to the Sub-Committee. The Sub-Committee took note with appreciation of the report, which is set out in annex I to the present report. The Sub-Committee noted with particular satisfaction that principle 3 relating to guidelines and criteria for safe use was unanimously agreed to by the working group at the present session.

II. MATTERS RELATING TO THE DEFINITION AND DELIMITATION OF OUTER SPACE AND TO THE CHARACTER AND UTILIZATION OF THE GEOSTATIONARY ORBIT, INCLUDING CONSIDERATION OF WAYS AND MEANS TO ENSURE THE RATIONAL AND EQUITABLE USE OF THE GEOSTATIONARY ORBIT WITHOUT PREJUDICE TO THE ROLE OF THE INTERNATIONAL TELECOMMUNICATION UNION (AGENDA ITEM 4)

31. The Chairman made an introductory statement on agenda item 4 at the 533rd meeting, on 9 April 1990. He referred to the work of the Sub-Committee at its twenty-eighth session in 1989.

32. The Chairman drew attention to the fact that the General Assembly, in its resolution 44/46, had decided that the Sub-Committee, taking into account the concerns of all countries, particularly those of developing countries, should continue, through its working group, its consideration of matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit, without prejudice to the role of ITU.

33. The Sub-Committee noted that the subject of the geostationary orbit had been under consideration in the Scientific and Technical Sub-Committee at its twenty-seventh session, in 1990, and that the relevant part of the report of that Sub-Committee was contained in document A/AC.105/456, paragraphs 66-71.

34. The Legal Sub-Committee had before it working papers submitted at its previous sessions under agenda item 4.

35. The views expressed by delegations during the debate on agenda item 4 are contained in summary records A/AC.105/C.2/SR.533, 534 and 538.

36. As mentioned in paragraph 11 (c) above, the Sub-Committee, at its 529th meeting, re-established its Working Group on agenda item 4 under the chairmanship of Mr. E. Zawels, the representative of Argentina.

37. At the 538th meeting, on 20 April 1990, the Chairman of the Working Group reported to the Sub-Committee. The Sub-Committee took note with appreciation of the report, which is set out in annex II to the present report.

III. CONSIDERATION OF THE LEGAL ASPECTS RELATED TO THE APPLICATION OF THE PRINCIPLE THAT THE EXPLORATION AND UTILIZATION OF OUTER SPACE SHOULD BE CARRIED OUT FOR THE BENEFIT AND IN THE INTERESTS OF ALL STATES, TAKING INTO PARTICULAR ACCOUNT THE NEEDS OF DEVELOPING COUNTRIES (AGENDA ITEM 5)

38. The Chairman made an introductory statement on agenda item 5 at the 535th meeting, on 12 April 1990. He referred to the work of the Sub-Committee at its twenty-eighth session in 1989.

39. The Chairman drew attention to the fact that the General Assembly, in its resolution 44/46, had decided that the Sub-Committee, taking into account the concerns of all countries, particularly those of developing countries, should continue its consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries.

40. The Sub-Committee had before it the replies received (A/AC.105/C.2/15 and Add.1-9) to a note verbale dated 26 September 1988, addressed by the Secretary-General to the States Members of the United Nations inviting them to submit their views as to the priority of specific subjects under agenda item 5, and to provide information on their national legal frameworks, if any, relating to the development of the application of the principle contained in article 1 of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

41. The Sub-Committee also had before it the replies received (A/AC.105/C.2/16 and Add.1-8) to a note verbale dated 20 December 1989, addressed by the Secretary-General to the States Members of the United Nations inviting them to submit their views on the subject of international agreements that Member States have entered into that are relevant to the principle that the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries, taking into particular account the needs of developing countries.

42. As mentioned in paragraph 11 (d) above, the Sub-Committee, at its 529th meeting, established a Working Group under agenda item 5, the Working Group to commence its work at the Sub-Committee's next session in 1991, and at its 535th meeting elected Mr. Raimundo González, the representative of Chile, as the Chairman of the Working Group.

43. The views expressed by delegations during the debate on agenda item 5 are contained in summary records A/AC.105/C.2/SR.535 to 537. The main ideas, proposals and considerations expressed by delegations during the debate are summarized below.

44. Commencing the deliberations on agenda item 5, the view was expressed that the ideas contained in the letter dated 20 March 1987 from the Government of Chile to the Secretary-General (A/42/185), which were still valid and maintained by that Government, could be used as guidelines for joint consideration by delegations of the agenda item. Furthermore, the view was expressed that the document submitted to the Sub-Committee by the Group of 77 during its twenty-sixth session (A/AC.105/C.2/L.162) contained, inter alia, fundamental ideas on which an exchange of views on the agenda item could be based. In that regard particular reference was made to paragraph 5 of that document expressing the idea that international co-operation was a key element in outer space activities, and might be developed to fill in lacunae in the existing legal régime applicable to the use of outer space. The view was also expressed that the concepts of "benefit" and "interests", "non-discrimination" and "equality of access" constituted additional guidelines.

45. Some delegations underscored the importance and relevance of international co-operation in regard to agenda item 5. In particular, the view was expressed that the main question involved was whether the benefits arising from the utilization of outer space were reaching all countries, and whether the activities in outer space were being undertaken taking into account the needs of the developing countries. In that regard it was stated that the focus of the current session's discussion should be the implications of the agenda item, in particular the manner in which the utilization of outer space could be made to benefit developing countries.

46. The view was also expressed that space activities in certain countries could not be dissociated from international co-operation in various forms, such as participation of scientists and technicians in training programmes and joint scientific experiments in areas such as meteorological research, remote-sensing satellite utilization and implementation of satellite communications, and that the concept of international co-operation was manifest in all five treaties dealing with outer space. 2/ Furthermore, the view was expressed that the strengthening of international co-operation in the domain of space science was essential if developing countries were to obtain tangible benefits from the applications of space science.

47. The view was also expressed that, to give concrete meaning to international co-operation, attention might be focused on the following key areas, among others:

(a) The establishment of an appropriate international framework for the development of a core of indigenous capability in space science and technology in the developing countries;

(b) The institutionalization of the exchange of appropriate information, data, materials and equipment on space science and technology between the developed space Powers and the developing countries;

(c) The establishment of joint ventures by the developed space Powers and the developing countries in various spheres of space science and technology such as design, manufacture of equipment, the launching of space objects, space training, experimentation and research;

(d) The establishment of an international framework for easy accessibility and cheap availability of remote-sensing data, the ground receiving stations and the digital image processing systems;

(e) The creation of a global network of technical assistance funds to accelerate national space scientific infrastructural development, and to promote the acquisition of space technology, as well as an integrated technical personnel pool to facilitate the transfer of technology and expertise to the developing countries;

(f) The establishment of an appropriate framework aimed at a rapid and efficient redistribution of the spin-off benefits of space science and technology to the technologically disadvantaged developing countries, without discrimination.

48. The view was expressed that the agenda item opened up a promising area for discussing questions pertaining to international co-operation in the field of outer space, and provided a good possibility for elaborating new areas of legal interest therein. In the view of the delegation, the first stage of the consideration of the item should be a comprehensive review of the norms of international space law relating to the exploration and utilization of outer space for the benefit and in the interests of all States, with a view to determining whether it was necessary to make the norms more specific and systematic and to undertake their progressive development. The delegation believed that it was necessary to formulate in the future specific proposals, whose implementation would serve the cause of further developing international co-operation in the field of outer space, and that, in that context, attention should be paid to the question of actively involving all interested States, particularly developing countries, in outer space activities.

49. Some delegations expressed the view that the formulation of the item was based on the cardinal principles embodied in article 1 of the 1967 Outer Space Treaty. However, the formulation was intended as a basis that would permit the development of those principles in the light of existing national and international legal instruments, and existing procedures for international co-operation. Such a development might lead to the establishment of a framework of additional principles applicable to the development of international co-operation in outer space. Those principles might relate to the dissemination of space technology in general, including hardware, launching, the training of technical experts and access to data banks.

50. The view was expressed that the item constituted an opportunity and a challenge for all States members of the Sub-Committee; for the developing countries, to analyse what concrete benefits they expected from the utilization of outer space; and for the technologically developed countries, to demonstrate by deeds their commitment to international co-operation and to decide how the benefits from the utilization of outer space could be spread to all countries. The view was further expressed that, in the light of the wide gap between developed and developing countries in scientific and technological development, an approach based on common human interests, international co-operation and the socio-economic development of the developing countries might be adopted, supported by a legal framework forming part of international space law, which would foster the development of the developing countries.

51. With regard to the information requested from Governments by the Secretary-General as a basis for the work, the view was expressed that not all States, particularly from the developing countries, had adopted national legislation relevant to work under the agenda item; therefore waiting for replies from all Governments before commencing concrete work might not be advisable.

52. The view was expressed that the agenda item might initially be considered by the Sub-Committee in the light of four issues. First, the common interests principle enshrined in article 1 of the 1967 Outer Space Treaty should be taken as the basis of discussion. That principle had binding force, as it was embodied in a substantive article. Secondly, the principle of international co-operation was very important for the realization of the common interests principle, as was shown from the replies of Governments to the Secretary-General relating to the agenda

item. Thirdly, the provision of services by international multilateral agencies (such as the World Meteorological Organization (WMO) through its meteorological network) and international co-operation fostered through bilateral international agreements, such as in the field of remote sensing, should be taken into account. Fourthly, the Sub-Committee should have as its final goal the elaboration of a legal document to develop and improve the common benefit principle.

53. The view was expressed that the areas to be discussed might include those specified in document A/AC.105/C.2/15/Add.1, reply from Pakistan. To these areas for discussion a further one should be added, namely, the safeguarding of the rights on natural resources and the sovereignty of all States, in particular of those with very limited space capability, by regulating the remote sensing, communications and other activities of space powers in outer space through adoption of an appropriate international legal régime.

54. The view was expressed that the basis for the work of the Sub-Committee on the item had been well-established, since States had provided information on national and international legal instruments they had adopted relating to the item, in accordance with the method of work adopted at the 1989 session of the Sub-Committee, which was later endorsed by General Assembly resolution 44/46. The view was also expressed that the compilation and dissemination of information on space law, and international space organizations, was also useful for an analysis of the present legal situation in general, and of the specific situation of developing countries. The Sub-Committee recommended that the Secretary-General reissue his request to Member States for information on their national legal frameworks and international agreements, noted in paragraphs 40 and 41 above.

55. Some delegations expressed the view that part of the work under agenda item 5 should relate to the clarification of the provisions of article 1 of the 1967 Outer Space Treaty. It was noted that some of the terms used in the article needed consideration and, in that connection, attention was drawn to the following terms: "for the benefit and in the interests of all countries", "province of mankind", "exploration and use of outer space", and the reference to "international co-operation" in paragraph 3 of the article. The view was expressed that articles X, XI, and XII of the Treaty were also relevant in the context of international co-operation, as were the other outer space treaties and certain General Assembly resolutions, including resolution 41/65 of 3 December 1986 adopting the Principles relating to Remote Sensing of the Earth from Space.

56. Some delegations indicated further areas in which international co-operation might be developed, and mentioned in that connection equitable access to outer space, the transfer of technology and technological know-how without discrimination and undue restrictions, the training of personnel and the development of the necessary indigenous scientific and technical infrastructure. Mention was also made of the areas set out in paragraph 5 of document A/AC.105/C.1/WG.6/L.4, submitted by the Group of 77 to the Scientific and Technical Sub-Committee at its last session, as being areas suitable for international co-operation.

57. Some delegations expressed the view that the work should be directed to the formulation of a set of legal principles concerning the equitable distribution of the benefits gained from the exploration and use of outer space. The view was

expressed, however, that the new agenda item did not provide a mandate for the negotiation of a new international legal framework. The view was also expressed that it was only natural that the Sub-Committee should eventually, at the conclusion of its consideration of the item, produce a document that would be a legal instrument, although it might not be appropriate at the current stage to determine the form and contents of any such instrument.

58. The view was expressed that, as part of the work, it might be necessary to undertake an examination of the existing network of national laws, and bilateral, regional and international treaties concerning the area under discussion; such an examination might indicate appropriate modalities and legal mechanisms for giving effect to article 1 of the 1967 Outer Space Treaty. The Sub-Committee decided that it would be useful to have before the Sub-Committee a compilation of the readily available multilateral agreements identified in the responses to the request of the Secretary-General for information on such agreements, as well as a list of the States parties to those agreements.

59. Some delegations expressed the view that work under agenda item 15 should also include the subject of the pollution of the outer space environment, especially by space debris.

60. In a statement made on behalf of the Group of 77, it was stated that agenda item 5 should be considered in the context of Articles 55 and 56 of the Charter of the United Nations, General Assembly resolution 2625 (XXV) of 24 October 1970, article 1 of the 1967 Outer Space Treaty, and taking particular account of the needs of developing countries. The result of the work should be to ensure not only a just distribution of the benefits resulting from outer space activities, but that the resources for such activities should be more efficiently distributed. Furthermore, it was necessary to intensify international co-operation in space activities so that such activities effectively contributed to the development of developing countries. The ultimate object should be the development of an appropriate legal framework, which would take into account in particular the needs of developing countries. Furthermore, as in previous instances, there should be an effective collaboration in the work between the Legal Sub-Committee and the Scientific and Technical Sub-Committee. It was stated that the efficiency of the Legal Sub-Committee should not be measured purely through statistics relating to utilization of time and resources, but rather from the point of view of the legal results achieved through the Sub-Committee's work. Furthermore, the duration of the sessions of the Sub-Committee should be adjusted in accordance with its work-load, and having regard to the fact that the Sub-Committee was commencing work on a new agenda item, the possibility of increasing the time allotted to it for future sessions should be examined.

61. The view was expressed that the new legal items constituted an amended version of article 1 of the 1967 Outer Space Treaty, since it identified and gave priority specifically to the developing countries. In that context it was stated that space activities should be characterized by equity, which implied, inter alia, access to the distribution of the benefits to which such activities gave rise, for the particular benefit of those countries.

Notes

1/ Official Records of the General Assembly, Forty-fourth Session, Supplement No. 20 (A/44/20).

2/ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (General Assembly resolution 2222 (XXI), annex); Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (General Assembly resolution 2345 (XXII), annex); Convention on International Liability for Damage Caused by Space Objects (General Assembly resolution 2777 (XXVI), annex); Convention on Registration of Objects Launched into Outer Space (General Assembly resolution 3235 (XXIX), annex); Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (General Assembly resolution 34/68, annex).

Annex I

REPORT OF THE CHAIRMAN OF THE WORKING GROUP ON AGENDA ITEM 3
(THE ELABORATION OF DRAFT PRINCIPLES RELEVANT TO THE USE OF
NUCLEAR POWER SOURCES IN OUTER SPACE)

1. On 3 April 1990, the Legal Sub-Committee re-established its Working Group on agenda item 3.

2. The Working Group had before it the report of the Legal Sub-Committee on the work of its twenty-eighth session, in 1989 (A/AC.105/430), which contained, in annexes I and III, section A, the report of the Chairman of the Working Group and the working papers that were before the Working Group at the twenty-eighth session; it also had before it the report of the Scientific and Technical Sub-Committee on the work of its twenty-seventh session, in 1990 (A/AC.105/456), which contained in annex III the report on the eighth session of its Working Group on the Use of Nuclear Power Sources in Outer Space.

3. The Working Group also had before it a working paper submitted to the Legal Sub-Committee at its previous session by the delegation of Canada (A/AC.105/C.2/L.154/Rev.5) and a working paper submitted to the Sub-Committee at its current session by the delegations of Canada, the Federal Republic of Germany and France (A/AC.105/C.2/L.177). The texts of these working papers are set out in sections A.1 and 2 of annex III to the report of the Sub-Committee.

4. Following a suggestion of the Chairman to concentrate on those draft principles where consensus had not been recorded, the Working Group carried out two readings of the provisions of draft Principles 2, 4, 8, 9 and 11 of the working paper submitted by the delegation of Canada (A/AC.105/C.2/L.154/Rev.5). The Chairman also suggested that draft Principles 2 and 4 should be considered together and that draft Principle 3 should first be considered in informal consultations on the basis of working paper A/AC.105/C.2/L.177. The working paper A/AC.105/C.2/L.177 noted above and suggestions made in the course of the discussions were also considered.

5. In regard to draft Principles 5 and 7, some delegations expressed the view that the principles should be compatible with the provisions of the 1986 Conventions on Early Notification of a Nuclear Accident, and on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

6. The view was expressed that draft Principle 5 might require strengthening in that the objectives of prompt and regular reporting might not be met by its current wording. Consequently, before reaching final agreement on a set of draft principles, draft Principle 5 should be reviewed to ensure that it was consistent with the objectives developed in the other principles. The delegation added that agreement to any principle was subject to the understanding that at some stage the complete set of agreed principles would be reviewed as a whole, since changes would be inevitable as the relationship between those principles was better understood. Other delegations expressed the view that the final review of the complete set of

principles should restrict itself to necessary adjustments but should not be used to reopen a debate on substancial points already agreed upon.

7. The views expressed and decisions taken during the discussions of the Working Group on the individual draft principles contained in the working paper submitted by the delegation of Canada (A/AC.105/C.2/L.154/Rev.5), on the other working paper referred to in paragraph 3 above and on proposals and suggestions of other delegations, are set forth below.

Principle 2: Notification of the presence on board a space object of a nuclear power source

8. The view was expressed that notification, either prior to or after launching, did not contribute to greater safety in the use of nuclear power sources and that neither type of notification was necessary.

9. Some delegations expressed the view that draft Principle 2 as well as draft Principle 4 should be considered in terms of the practical safety benefits they provided to protect States from the risks of accidents resulting from the launch of a space object with a nuclear power source on board. The view was expressed that the safety objectives of the draft principle, as well as the possible objective of confidence-building in the safety of nuclear power sources, were better achieved in concrete practical terms through draft Principle 4. Thus, if draft Principle 4 were to provide that a safety assessment had to be made prior to each launch, and that such safety assessment had to be made publicly available, draft Principle 2 might become unnecessary. Other delegations however expressed the view that draft Principle 2 and draft Principle 4 served different objectives and should therefore both be retained.

10. The view was expressed that when furnishing the information required by the draft principle to the Secretary-General, States were free, pursuant to the 1975 Registration Convention, to communicate additional information, including the amount and type of fuel used in the nuclear power source, the main principles according to which the radiation safety systems operated, as well as information regarding the transfer of space objects from their operational orbits to their disposal orbits and other substantive changes in orbit. The view was also expressed that the words "specific information" needed further elaboration. The additional view was expressed that some other, more general, formulation could be used in the draft principle instead of the phrase "as soon as possible".

11. Some delegations expressed the view that the relationship of the draft principle to the furnishing of information under the 1975 Registration Convention was unclear. Article IV of that Convention, while obligating States of registry to provide certain information on space objects carried on their registries, did not obligate States to furnish information on the presence of a nuclear power source on board a space object (although such information could be voluntarily given). The question therefore arose whether draft Principle 2 in effect amended the 1975 Registration Convention, which the General Assembly had recently reviewed without recommending any amendments thereto. Other delegations expressed the view however

that the provision of information under the draft principle was to meet the objectives of the present set of principles and therefore made no amendment to the 1975 Registration Convention, but should be considered as a new emerging regulation for safe use of nuclear power sources in outer space.

Principle 3: Guidelines and criteria for safe use

12. The Working Group noted that extensive informal consultations had been conducted on the draft principle, based on a working paper submitted by Canada, the Federal Republic of Germany and France (A/AC.105/C.2/L.177), and that those consultations had resulted in a new text, which had been submitted to the Working Group as a proposal by the Chairman of the Working Group (A/AC.105/C.2/L.178). The Working Group recorded consensus on the following text of the draft principle, as contained in document A/AC.105/C.2/L.178:

"Principle 3: Guidelines and criteria for safe use

"In order to minimize the quantity of radioactive material in space and the risks involved, the use of nuclear power sources (NPS) in outer space shall be restricted to those space missions which cannot be operated by non-nuclear energy sources in a reasonable way.

"1. General goals for radiation protection and nuclear safety

"1.1 States launching space objects with NPS on board shall endeavour to protect individuals, populations and the biosphere against radiological hazards. The design and use of space objects with NPS on board shall ensure, with a high degree of confidence, that the hazards, in foreseeable operational or accidental circumstances, are kept below acceptable levels as defined in paragraphs 1.2 and 1.3.

"Such design and use shall also ensure with high reliability that radioactive material does not cause a significant contamination of outer space.

"1.2 During the normal operation of space objects with NPS on board, including re-entry from the sufficiently high orbit (SHO) as defined in paragraph 2.2, the appropriate radiation protection objective for the public recommended by the International Commission on Radiological Protection (ICRP) shall be observed. During such normal operation there shall be no significant radiation exposure.

"1.3 To limit exposure in accidents, the design and construction of the NPS systems shall take into account relevant and generally accepted international radiological protection guidelines.

"Except in cases of low probability accidents with potentially serious radiological consequences, the design for the NPS systems shall, with a high degree of confidence, restrict radiation exposure to a limited geographical region and to individuals to the principal limit of 1 mSv in a year. It is permissible to use a subsidiary dose limit of 5 mSv in a year for some years, provided that the average annual effective dose equivalent over a lifetime does not exceed the principal limit of 1 mSv in a year.

"The probability of accidents with potentially serious radiological consequences referred to above shall be kept extremely small by virtue of the design of the system.

"Future modifications of the guidelines referred to in this paragraph shall be applied as soon as practicable.

"1.4 Systems important for safety shall be designed, constructed and operated in accordance with the general concept of defence-in-depth. Pursuant to this concept, foreseeable safety-related failures or malfunctions must be capable of being corrected or counteracted by an action or a procedure, possibly automatic.

"The reliability of systems important for safety shall be ensured, inter alia, by redundancy, physical separation, functional isolation and adequate independence of their components.

"Other measures shall also be taken to raise the level of safety.

"2. Nuclear reactors

"2.1 Nuclear reactors may be operated:

"(i) On interplanetary missions;

"(ii) In sufficiently high orbits (SHO) as defined in paragraph 2.2;

"(iii) In low Earth orbits if they are stored in SHO after the operational part of their mission.

"2.2 The SHO is one in which the orbital lifetime is long enough to allow for a sufficient decay of the fission products to approximately the activity of the actinides. The SHO must be such that the risks to existing and future outer space missions and of collision with other space objects are kept to a minimum. The necessity for the parts of a destroyed reactor also to attain the required decay time before re-entering the Earth's atmosphere shall be considered in determining the SHO altitude.

"2.3 Nuclear reactors shall use only highly enriched uranium 235 as fuel. The design shall take into account the radioactive decay of the fission and activation products.

"2.4 Nuclear reactors shall not be made critical before they have reached their operating orbit or interplanetary trajectory.

"2.5 The design and construction of the nuclear reactor shall ensure that it cannot become critical before reaching the operating orbit during all possible events, including rocket explosion, re-entry, impact on ground or water, submersion in water or water intruding into the core.

"2.6 In order to reduce significantly the possibility of failures in satellites with nuclear reactors on board during operations in an orbit with a lifetime less than in the SHO (including operations for transfer into the SHO), there shall be a highly reliable operational system to ensure an effective and controlled disposal of the reactor.

"3. Radio-isotope generators

"3.1 Radio-isotope generators may be used for interplanetary missions and other missions leaving the gravity field of the Earth. They may also be used in Earth orbit if, after conclusion of the operational part of their mission, they are stored in a high orbit. In any case ultimate disposal is necessary.

"3.2 Radio-isotope generators shall be protected by a containment system that is designed and constructed to withstand the heat and aerodynamic forces of re-entry in the upper atmosphere under foreseeable orbital conditions, including highly elliptical or hyperbolic orbits where relevant. Upon impact, the containment system and the physical form of the isotope shall ensure that no radioactive material is scattered into the environment so that the impact area can be completely cleared of radioactivity by a recovery operation."

As regards subparagraph 1.5 which was contained in the report of the Scientific and Technical Sub-Committee (A/AC.105/456) and in document A/AC.105/C.2/L.177 and which is deleted from the text adopted by consensus as contained in document A/AC.105/C.2/L.178, the Working Group agreed that it should, at its next session, consider the question - in the light of Principle 7 already adopted - of where a provision reflecting the substance of subparagraph 1.5 should be placed.

Principle 4: Safety assessment

13. Some delegations expressed the view that the definition of "launching State" should be broadened to include the States that launched space objects, that procured such launchings, as well as the States from whose territory and the States from whose facilities such launchings occurred, since those four categories of States were included in the definition of "launching State" under the 1972 Liability Convention and the 1975 Registration Convention. The view was also expressed that, since the appropriate State to carry out the safety assessment from among those categories might depend on the circumstances, the words "as appropriate" should be added to qualify those categories and point to the State or States to carry out the assessment.

14. The view was expressed that, since the State from whose territory the space object was launched had to give permission for the launch, that State should carry out the safety assessment. However, if several States were involved in the launch, all such States should co-operate with the State from whose territory the space object was launched in making the safety assessment. Other delegations expressed opposition to imposing the duty to make a safety assessment primarily on the State from whose territory the space object was launched and stated that it might be preferable to impose the duty on the "launching State" as defined in the 1972 Liability Convention and the 1975 Registration Convention. Other delegations expressed the view that safety assessment can only be made by the country which has manufactured, designed or constructed the space object with a nuclear power source on board, particularly when the launching State is not the manufacturing State. Hence, the need for a more appropriate definition of the expression "States launching space objects with nuclear power sources on board", for the purpose of the present principles.

15. Some delegations expressed the view that the contents of the safety assessment and the manner in which it would be made available to the international community should be further elaborated. The view was expressed that the point of time prior to launch when the safety assessment had to be made should be specified.

16. Some delegations expressed the view that the existing text of this principle formed a good basis for consensus, and that the square brackets around the last sentence should be deleted.

17. The view was expressed that draft Principle 4 should be reformulated as follows:

"Principle 4: Safety assessment

"States from whose territory space objects with nuclear power sources on board are launched shall conduct, in co-operation, where relevant, with States which have designed or constructed or will operate the nuclear power source, a thorough safety assessment prior to each launch. This assessment shall cover all relevant phases of the mission and shall deal with all systems involved including the means of launching, the space platform, the nuclear power source and its equipment, and the means of control and communication between ground and space.

"This assessment shall respect the guidelines and criteria for safe use contained in Principle 3.

"The detailed results of this safety assessment shall be made publicly available prior to each launch [through the Secretary-General of the United Nations]."

Some delegations expressed their support for certain elements of the proposal. Other delegations expressed reservations concerning the formulation and expressed the view that the existing text was preferable. Some of those delegations expressed in particular reservations as regards concentrating the obligation for

the safety assessment on the States from whose territory space objects with nuclear power sources on board were launched.

Principle 8: Responsibility

18. The view was expressed that the objectives of this principle were similar to those of Principle XIV of the 1986 Principles Relating to Remote Sensing, and that the formulation of the latter principle could serve as a model for draft Principle 8. It was pointed out that in its 1988 report the Legal Sub-Committee had agreed that the principle was a basis for consensus in the near future.

Principle 9: Compensation

Paragraph 1

19. The view was expressed that the concept of liability in paragraph 1 corresponded to the concept of liability for damage as defined in article VII of the 1967 Outer Space Treaty, and that this liability did not necessarily result from the violation of norms of international law, but could also result from the carrying out of ultra-hazardous activities in outer space. In the view of this delegation, this paragraph should therefore be the subject of a separate principle entitled "Liability for damage", distinct from the modalities of compensation dealt with in paragraphs 2, 3 and 4.

20. The view was expressed that since draft Principle 8, in addition to imposing responsibility on States, imposed responsibility on international organizations, draft Principle 9 should similarly impose liability for damage on international organizations as well.

Paragraph 2

21. The view was expressed that the meaning of the phrase "in accordance with international law and the principles of justice and equity" was unclear, in particular because the relationship between international law and the principles of justice and equity was not elaborated.

Paragraph 3

22. The view was expressed that the right given under this paragraph to reimbursement of the expenses for search, recovery and clean-up operations, including expenses for assistance received from third parties, should be qualified by, for example, adding wording such as "reasonable", "well-founded" or "duly substantiated" before the word "expenses" when it first occurred. Since recovery under this paragraph was not limited to compensation for direct damages within the meaning of the 1972 Liability Convention, it was necessary, in the view of this delegation, to add qualifying wording to ensure that the compensation for indirect damage which might be claimed was not arbitrary. Other delegations expressed the view that the addition of words qualifying the expenses recoverable would render

the paragraph unclear and uncertain, and was therefore unacceptable. Those delegations also observed that in view of the potentially serious consequences to victims of accidents, it would be unfair to try to limit the recoverable compensation by such qualifying wording. Other delegations expressed the view that paragraphs 3 and 4 might be combined, so as to clarify that unreasonable claims for compensation might be limited by the terms of the 1972 Liability Convention.

Paragraph 4

23. Some delegations noted that the procedure for the settlement of claims under the 1972 Liability Convention referred to in this paragraph provided for the establishment of a claims commission, the decisions of which had to be considered in good faith by the parties but were not binding. In their view, it might therefore be useful to add wording to the effect that the decisions on compensation of the Claims Commission were to be binding. Provision might also be made for the reference of disputes to the International Court of Justice. The view was expressed that the relationship between the machinery for dispute settlement proposed in connection with this paragraph, and the provisions of draft Principle 10, needed consideration.

Principle 11: Relations with international treaties and agreements

24. The view was expressed that, since under the Vienna Convention on the Law of Treaties there was no difference between international "treaties" and "agreements", the reference to both terms was superfluous. In reply, the view was expressed that both words had been used in the English version to conform to the wording currently used in the French version.

25. The view was expressed that since there was as yet no consensus on the legal force and nature of the document containing the draft principles under consideration, the effect which this principle would have was unclear.

* * *

26. The Working Group held its final meeting on 11 April 1990, when it considered and approved the present report.

Annex II

DRAFT REPORT OF THE CHAIRMAN OF THE WORKING GROUP ON AGENDA ITEM 4 (MATTERS RELATING TO THE DEFINITION AND DELIMITATION OF OUTER SPACE AND TO THE CHARACTER AND UTILIZATION OF THE GEOSTATIONARY ORBIT, INCLUDING CONSIDERATION OF WAYS AND MEANS TO ENSURE THE RATIONAL AND EQUITABLE USE OF THE GEOSTATIONARY ORBIT WITHOUT PREJUDICE TO THE ROLE OF THE INTERNATIONAL TELECOMMUNICATION UNION)

1. On 3 April 1990, the Legal Sub-Committee re-established its Working Group on agenda item 4.

2. The Working Group had before it the report of the Legal Sub-Committee on the work of its twenty-eighth session, in 1989 (A/AC.105/430), which contained, in annex II, the report of the Chairman of the Working Group at the twenty-eighth session; it also had before it the report of the Scientific and Technical Sub-Committee on the work of its twenty-seventh session in 1990 (A/AC.105/456), which considered, in chapter VI, inter alia, the subject of the "physical nature and technical attributes of the geostationary orbit".

3. The following documents submitted at previous sessions of the Legal Sub-Committee and of the Committee on the Peaceful Uses of Outer Space were referred to in the course of the discussions: "Approach to the delimitation of airspace and outer space", submitted to the Sub-Committee at its twenty-second session by the delegation of the Union of Soviet Socialist Republics (A/AC.105/C.2/L.139); "Draft general principles governing the geostationary orbit", submitted to the Sub-Committee at its twenty-third session by the delegations of Colombia, Ecuador, Indonesia and Kenya (A/AC.105/C.2/L.147); "Principles governing the activities of States in the utilization of the geostationary orbit", submitted to the Sub-Committee at its twenty-fifth session by the delegation of the German Democratic Republic (A/AC.105/C.2/L.153); "Draft basic provisions of the General Assembly on the delimitation and definition of outer space and on the legal status of the geostationary satellite orbit", submitted to the Sub-Committee at its twenty-fifth session by the delegation of Kenya (A/AC.105/C.2/L.155); "Draft basic provisions of the General Assembly resolution on the delimitation of airspace and outer space and on the legal status of the geostationary satellites' orbital space", submitted to the Committee at its twenty-second session by the delegation of the Union of Soviet Socialist Republics (A/AC.105/L.112); a comparative table of the provisions of working papers A/AC.105/C.2/L.147 and L.153, submitted by the delegation of Indonesia to the Working Group at the twenty-fifth session of the Sub-Committee (WG/DEF-GSO(1986)/WP.1); "Compromise proposal on the question related to the definition and delimitation of outer space", submitted to the Committee at its thirtieth session by the delegation of the Union of Soviet Socialist Republics (A/AC.105/L.168); letter dated 16 October 1985 from the Secretary-General of the International Telecommunication Union to the Secretary-General of the United Nations (A/AC.105/360), concerning a decision reached at the first session of the World Administrative Radio Conference in 1985, on the use of the geostationary satellite orbit and the planning of the space services utilizing the orbit; and a

"working non-paper" circulated at the Sub-Committee's twenty-eighth session in 1989 (A/AC.105/430, annex II, para. 20).

4. On the question of the organization of its work, pursuant to a recommendation by the Chairman, the Working Group agreed that each aspect of the agenda item (namely, the definition and delimitation of outer space, on the one hand, and the geostationary orbit, on the other) should be discussed by the Working Group separately.

5. The views expressed in the discussion within the Working Group are summarized below.

Question of the definition and delimitation of outer space

6. Some delegations, reiterating their position expressed at previous sessions of the Sub-Committee, expressed the view that the definition and delimitation of outer space was a practical and legal necessity in order to achieve a clear distinction between the legal régime of airspace, with its inherent features of State sovereignty, territorial integrity and security, and the legal régime of outer space, which provided for the free exploration and use of outer space for the benefit of all nations. In the view of those delegations, a delimitation of airspace and outer space was necessary in particular to determine the limits of the region governed by the treaties relating to outer space. Some of those delegations felt that, while at present there might not be agreed scientific criteria available for determining precisely the altitude at which airspace ended and outer space commenced, it was generally recognized that the lowest perigee of orbiting satellites lay in outer space. Some of those delegations expressed the view that the delimitation of outer space should be accomplished by a legally binding international instrument. Some delegations expressed the view that the rapid progress of space technology, including employment of reusable spacecraft which return to the Earth in aircraft mode, and the anticipated development in some countries of aerospace systems which would be able to operate both in outer space and in airspace, was an additional argument in favour of establishing an agreed boundary between airspace and outer space.

7. Some delegations considered the working paper submitted by the delegation of the Union of Soviet Socialist Republics to the Sub-Committee at its twenty-second session in 1983 (A/AC.105/C.2/L.139) to be a good basis for a solution to the question under discussion. Those delegations expressed their preparedness to consider any interim measures aimed at the eventual settlement of the question of delimitation. They referred in particular to the proposals to consider the lowest perigee of an orbiting satellite as a lower boundary of outer space and to confirm the norm of customary law whereby all artificial Earth satellites placed in Earth orbit are considered to be in outer space. The view was also expressed that a boundary between airspace and outer space should be established at an altitude of 90 kilometres above sea level.

8. Other delegations, reiterating their position expressed at previous sessions of the Sub-Committee, expressed the view that there was no present need for establishing a boundary between airspace and outer space. They believed that the

lack of such a boundary had not led to any practical problems in the peaceful exploration of outer space, and that the utmost freedom of action was required for successful continuation of such peaceful exploration for the benefit of all countries. Those delegations expressed the view that so far no persuasive juridical and practical reasons had been introduced in favour of establishing an arbitrary line delimiting airspace and outer space. They noted that the present differing legal régimes applicable to airspace and outer space had operated well in their respective spheres, complementing and accommodating each other for the benefit of all States and peoples. Those delegations stated that that smooth relationship had been possible largely because of, and not in spite of, the absence of an artificial delimitation between outer space and airspace.

9. The view was expressed that currently, assisted by rocket power, air vehicles could reach 100 kilometres for brief periods, while the perigee of the orbit of some space vehicles has been as low as 90 kilometres. In that connection, the view was expressed that an orbiting space object should not become subject to airspace law merely because it dipped below a certain line during its flight, and, likewise, an aircraft should not become subject to outer space law merely because it might travel for a certain period above that line during its flight. The view was also expressed that the future advent of aerospace vehicles did not adequately justify the delimitation of airspace from outer space.

10. Some delegations expressed the view that the Sub-Committee, at its next session in 1991, could commence a preliminary exchange of views on the international legal problems connected with the anticipated flights of aerospace systems. In the opinion of those delegations, such an exchange of views would lead to better understanding as to the advisability and feasibility of elaborating in the future international legal norms and principles regulating the use of aerospace systems. Those delegations believed that while there was evident a practical link between the problem of delimitation and the problem of regulating flights of aerospace systems, the consideration of the latter problem could begin before resolving the former one. In reply, other delegations stated that, at the current stage, they were not in a position to join a consensus on the proposal for commencing a preliminary exchange of views on the above-mentioned legal problems at the next session.

11. Some delegations expressed the view that, since there was no likelihood of producing tangible results in the consideration of the question of the definition and delimitation of outer space, the Sub-Committee should consider dropping the item from its agenda or significantly reducing the time allotted to it. Other delegations expressed the view that the item should remain on the agenda of the Sub-Committee and should be discussed in a constructive manner with all the delegations demonstrating a will to reach compromise.

Question of the geostationary orbit

12. Some delegations, reiterating views expressed by them at previous sessions of the Sub-Committee, asserted that the geostationary orbit was a limited natural resource, as recognized in the report of the Second United Nations Conference on

the Exploration and Peaceful Uses of Outer Space (UNISPACE 82) and in articles 10 and 33 of the International Telecommunication Union Convention concluded at Nairobi in 1982 (the ITU Convention). In the view of those delegations, the geostationary orbit was in danger of saturation through the large number of satellites placed therein by certain countries. They believed that the geostationary orbit should, on the other hand, be utilized efficiently, equitably and economically in the interests of all mankind, taking into account the needs of the developing countries. In their view, there was a need to establish a sui generis legal régime, supplementing the existing space law, to regulate equitable access to and rational utilization of the geostationary orbit. They believed that, while ITU had a useful role to play in regulating technical issues within its competence relating to the geostationary orbit, the Committee on the Peaceful Uses of Outer Space was the competent body to deal with political and legal questions relating to the geostationary orbit, and to elaborate a sui generis legal régime for that orbit.

13. Other delegations, reiterating views expressed by them at previous sessions of the Sub-Committee, considered that the geostationary orbit formed an integral part of outer space, and was subject to the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (the 1967 Outer Space Treaty). Accordingly, the geostationary orbit was not subject to national appropriation by claim of sovereignty, by means of use or occupation or by any other means, and all States enjoyed equal rights in its utilization. Those delegations did not consider that there was a need to formulate a special legal régime to regulate the geostationary orbit, and they considered that questions relating to the use of the geostationary orbit had been adequately resolved through the work of ITU, enabling rational and equitable use of the orbit by all States. Those delegations noted that ITU was an international body charged with the responsibility for maximizing the orderly and efficient utilization of the geostationary orbit for telecommunication purposes, and with ensuring equity in that regard. Those delegations also noted that they had made certain declarations and reservations regarding the interpretation of articles 10 and 33 of the ITU Convention, in particular regarding the interpretation of the phrase "taking into account ... the geographical situation of particular countries". Some of those delegations expressed the view that the problem of increasing the capacity of the geostationary orbit was being satisfactorily resolved through scientific and technical progress, and that the fear of the saturation of the orbit lacked scientific basis.

14. Some delegations, reiterating views expressed by them at previous sessions of the Sub-Committee, considered that provisions regarding a legal régime should be formulated in order to reflect the need for a rational and equitable utilization of the geostationary orbit, not as a sui generis régime, but rather in conformity with existing space law and taking into account the relevant ITU decisions. Those delegations further considered that the geostationary orbit was an integral part of outer space and therefore not subject to appropriation by claim of sovereignty, by means of use or occupation or by any other means. They stressed that the utilization of the geostationary orbit should be regulated within already applicable international instruments regulating outer space and through international co-operation. Those delegations believed that, while no rights of ownership or any preferential rights over orbital positions could exist for any

State, it should be recognized that the geostationary orbit was a limited natural resource and that equitable access should be assured for all States in accordance with article 33 of the ITU Convention. Those delegations considered that the ITU Convention and Radio Regulations recognized the need to utilize the geostationary orbit and the frequency bands rationally, economically and equitably. In that context some other delegations considered that, while ITU was the appropriate body to regulate technical questions within its competence, the Legal Sub-Committee was the appropriate body to deal with legal issues.

15. Some delegations expressed the view that the notion of giving equitable access to the geostationary orbit, taking into account the needs of developing countries, as mentioned in articles 10 and 33 of the ITU Convention, required some special treatment to be given to the developing countries, which did not currently possess the scientific, technological and economic means to utilize the geostationary orbit. Other delegations stressed the importance in that context of international co-operation, and pointed out that co-operation within the framework of ITU and compliance with the relevant instruments of that organization were essential prerequisites for guaranteeing to all States equitable access to the geostationary orbit, and for ensuring its rational and economic utilization. In this context these delegations noted with satisfaction that the World Administration Radio Conference on the use of the Geostationary Satellite Orbit (WARC-ORB) had provided for guaranteed access for all States to the geostationary orbit. Those delegations expressed the view that any claim by a group of States to sovereignty or preferential rights over the geostationary orbit would be incompatible with the giving of equitable access to the orbit to all States. Other delegations considered that the concept of equitable access needed to be more precisely defined and that, moreover, in that context account should be taken of the special geographical relationship between the equatorial countries and the geostationary orbit.

16. Some delegations expressed the view that there was an emerging consensus among many delegations on the following points: that the geostationary orbit was a part of outer space and was a limited natural resource that should be used in an efficient and economic way; that the geostationary orbit was not subject to national appropriation by claim of sovereignty, by means of use or occupation or by any other means; and that all States should have equitable access to the utilization of the geostationary orbit. Those delegations expressed the view that this emerging consensus could form a basis of agreement in the Sub-Committee on which further work could proceed. In connection with such further work, the view was expressed that the regulation of the geostationary orbit in the field of telecommunications by ITU did not cover all the possible uses of the geostationary orbit, and that the Sub-Committee therefore could play a useful role. However, the view was expressed that at the present time and in the foreseeable future, the utilization of the geostationary orbit lay precisely in the field of telecommunications.

17. Some delegations expressed the view that the "working non-paper" circulated at the Sub-Committee's previous session by a group of delegations (A/AC.105/430, annex II, para. 20) could serve as a practical basis for the consideration of the subject of the geostationary orbit in the Working Group. The view was expressed

that it might be desirable to try to identify some new elements in addition to the five formulations contained in the "non-paper" (e.g., an element reflecting the need for international co-operation in the utilization of the geostationary orbit).

18. Following a suggestion by the Chairman, the Working Group agreed to an exchange of views on the five general ideas formulated in the document.

19. On the formulation that "the geostationary orbit is a limited natural resource and, therefore, its utilization should be rational and equitable and for the benefit of all mankind, taking into account the special needs of the developing countries and the geographical situation of particular countries", some delegations expressed the view that the formulation was generally acceptable. Other delegations expressed the view that the concept of the geostationary orbit as a limited natural resource that might be saturated needed to be modified in the light of progress in the field of satellite communications, which had resulted in an enormous increase in satellite capacity, and an increase of the number of satellites which could be accommodated within the geostationary orbit. The view was expressed that the words "and the geographical situation of particular countries" in the formulation should be replaced by "including countries with particular geographical situations". The proposal was supported by some delegations. Other delegations expressed the view that, although the above formulation was evidently based on article 33 of the ITU Convention, it deviated without adequate justification from the language used in that article. In particular, those delegations believed that the utilization of the radio frequency spectrum formed an integral part of the utilization of the geostationary orbit. Some delegations stated that the phrase "the geographical situation of particular countries" in the above formulation had for them the same meaning as in article 33 of the ITU Convention, and therefore applied, for example, to countries with a mountainous or large land mass, or to island countries, but not to equatorial or developing countries. In that connection, those delegations recalled and reiterated their declarations and reservations with regard to this phrase, as made by them in 1982 when the ITU Convention was adopted, and some of those delegations proposed that the phrase should be deleted in order to avoid its misinterpretation. The view was also expressed that the phrase "taking into account ... the geographical situation of particular countries" had been included to indicate that geographically disadvantaged countries were to receive special consideration, and not that certain States were to receive advantages over other States. In reply, the view was expressed that equatorial countries, especially in relation to the geostationary orbit, occupied a special geographical position and bore a disproportionate risk of loss from the impact after re-entry of nuclear power sources.

20. On the formulation that "the development of space science and technology applied in the utilization of the geostationary orbit is of fundamental importance for the economic, social and cultural development of the peoples of all States, in particular those of developing countries", the view was expressed that, although the idea itself deserved full support, the specific wording could be improved. Some delegations expressed the view that the formulation was acceptable.

21. On the formulation that "the geostationary orbit should be used exclusively for peaceful purposes for the benefit of all mankind through promoting international co-operation and understanding", some delegations expressed the view that the formulation should be supported. Some delegations expressed the view that the formulation reflected an idea already contained in article 1 of the 1967 Outer Space Treaty, which however applied to outer space as a whole. Since, in the view of those delegations, the geostationary orbit was an integral part of outer space, the formulation was unnecessary and, if adopted, could create difficulties in the future interpretation of the 1967 Outer Space Treaty. In reply, some delegations expressed the view that they did not envisage that the adoption of this formulation would lead to any practical problems with the future interpretation of the 1967 Outer Space Treaty. In addition, some of these delegations expressed the view that any potential difficulties in the interpretation of article 1 of the 1967 Outer Space Treaty could be avoided if the first part of this formulation were to be reworded to read: "The geostationary orbit and outer space, in keeping with the provisions of the 1967 Outer Space Treaty, should be used ... ".

22. The formulations (4) and (5) contained in the "working non-paper" were not discussed owing to lack of time. Some delegations, in their general remarks, expressed the view that formulations (4) and (5) were not appropriate. Some of the delegations considered that those two elements constituted the basis for further discussion and the exchange of views with a view to achieve rational and equitable utilization of the geostationary orbit.

23. Some delegations expressed the view that, while they were prepared to exchange ideas on the five elements contained in the "working non-paper", they did not believe that the drafts of legal norms or principles in regard to the geostationary orbit was called for, and were not ready to engage in such drafting.

24. Some delegations expressed the view that the Secretariat might be requested to prepare a report relating to the present agenda item, which would indicate the issues on which, and the extent to which, convergence of views existed within the Sub-Committee, taking into account the past reports of the Sub-Committee and other written records of views expressed in the Sub-Committee. Other delegations were opposed to the proposal, since in their view it was for the Sub-Committee itself, and not for the Secretariat, to determine the extent of consensus within the Sub-Committee, and past expressions of view were not necessarily an indication of the extent of present consensus within the Sub-Committee. In reply to a question addressed to the Secretariat relating to past practice in compiling such reports, the Secretariat stated that to the best of its recollection, in recent years the Secretariat had only prepared the reports of the Sub-Committee (which had indicated points of convergence and lack of convergence of views on issues discussed in the Sub-Committee) and processed information transmitted by States to the Sub-Committee. However, the Secretariat was ready to respond to a request by the Sub-Committee for the provision of any services to it.

* * *

25. The Working Group held its final meeting on 18 April 1990, when it considered and approved the present report.

Annex III

DOCUMENTS AND OTHER TEXTS ANNEXED TO THE REPORT

A. The elaboration of draft principles relevant to the use of nuclear power sources in outer space

1. Canada: working paper (A/AC.105/C.2/L.154/Rev.5 of 5 April 1989)

The following is the fifth revision of the draft principles contained in working paper A/AC.105/C.2/L.154 of 25 March 1986 and reflects discussions held at the twenty-eighth session of the Legal Sub-Committee.

Principles 1, 5, 6, 7, and 10 have been agreed to by the Sub-Committee.

DRAFT PRINCIPLES RELEVANT TO THE USE OF NUCLEAR POWER SOURCES IN OUTER SPACE

... Recognizing the need for specific procedures and criteria to ensure the safe use of nuclear power sources in outer space, ...

To this end,

PRINCIPLE 1: Applicability of international law

Activities involving the use of nuclear power sources in outer space shall be carried out in accordance with international law, including in particular the Charter of the United Nations and the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

PRINCIPLE 2: Notification of the presence on board a space object of a nuclear power source

The State on whose register a space object with a nuclear power source on board is carried shall furnish to the Secretary-General of the United Nations, as soon as possible after launching, specific information as to the presence on board that space object of a nuclear power source and its generic classification.*

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* This principle is being considered together with principle 4.

PRINCIPLE 3: Guidelines and criteria for safe use

(For the text of this principle, see document A/AC.105/C.2/L.173, reproduced in section A.2 of annex III to the report of the Legal Sub-Committee on the work of its twenty-eighth session - document A/AC.105/430)

PRINCIPLE 4: Safety assessment

States [which launch or procure the] launching [of] space objects with nuclear power sources on board* shall proceed with a thorough safety assessment prior to [each] launch. This assessment shall respect the guidelines and criteria for safe use contained in principle 3. [Such States shall make the assessment publicly available.]

PRINCIPLE 5: Notification of re-entry

1. Any State launching a space object with nuclear power sources on board shall timely inform States concerned in the event this space object is malfunctioning with a risk of re-entry of radioactive materials to the Earth. The information shall be in accordance with the following format:

A. System parameters

A.1 Name of launching State or States including the address of the authority which may be contacted for additional information or assistance in case of accident

A.2 International designation

A.3 Date and territory or location of launch

A.4 Information required for best prediction of orbit lifetime, trajectory and impact region

A.5 General function of spacecraft

B. Information on the radiological risk of nuclear power source(s)

B.1 Type of NPS: radio-isotopic/reactor

B.2 The probable physical form, amount and general radiological characteristics of the fuel and contaminated and/or activated components likely to reach the ground. The term "fuel" refers to the nuclear material used as the source of heat or power.

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* The definition of "States launching space objects with nuclear power sources on board" is to be considered later.

This information shall also be transmitted to the Secretary-General of the United Nations.

2. The information, in accordance with the format above, shall be provided by the launching State as soon as the malfunction has become known. It shall be updated as frequently as practicable and the frequency of dissemination of the updated information shall increase as the anticipated time of re-entry into the dense layers of the Earth's atmosphere approaches so that the international community will be informed of the situation and will have sufficient time to plan for any national response activities deemed necessary.

3. The updated information shall also be transmitted to the Secretary-General of the United Nations with the same frequency.

PRINCIPLE 6: Consultations

States providing information in accordance with principle 5 shall, as far as reasonably practicable, respond promptly to requests for further information or consultations sought by other States.

PRINCIPLE 7: Assistance to States

1. Upon the notification of an expected re-entry into the Earth's atmosphere of a space object containing a nuclear power source on board and its components, all States possessing space monitoring and tracking facilities, in the spirit of international co-operation, shall communicate the relevant information that they may have available on the malfunctioning space object with a nuclear power source on board to the Secretary-General of the United Nations and the State concerned as promptly as possible to allow States that might be affected to assess the situation and take any precautionary measures deemed necessary.

2. After re-entry into the Earth's atmosphere of a space object containing a nuclear power source on board and its components:

(a) The launching State shall promptly offer, and if requested by the affected State,* provide promptly the necessary assistance to eliminate actual and possible harmful effects;

(b) All States, other than the launching State, with relevant technical capabilities and international organizations with such technical capabilities shall, to the extent possible, provide necessary assistance upon request by an affected State.

In providing the assistance in accordance with subparagraphs (a) and (b) above, the special needs of developing countries shall be taken into account.

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* The question of the definition of the term "affected State" is to be considered later.

PRINCIPLE 8: Responsibility

1. In accordance with article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, States launching space objects with nuclear power sources on board shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, involving the use of nuclear power sources, whether such activities are carried on by government agencies or by non-governmental entities. When activities involving the use of nuclear power sources in outer space are carried on by an international organization, international responsibility for such activities shall be borne by that organization and by the States participating in it.

2. States launching space objects with nuclear power sources on board shall ensure that national activities involving the use of nuclear power sources in outer space are conducted in accordance with these principles. When activities involving the use of nuclear power sources in outer space are carried on by an international organization, that organization and the States participating in it shall ensure that such activities are conducted in accordance with these principles.

PRINCIPLE 9: Compensation

1. In accordance with article VII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and the provisions of the Convention on International Liability for Damage Caused by Space Objects, States launching space objects with nuclear power sources on board shall be internationally liable for damage caused by these space objects.

2. The compensation that such States shall be liable to pay for damage shall be determined in accordance with international law and the principles of justice and equity in order to provide such reparation in respect of the damages as will restore the person, natural or juridical, State or international organization on whose behalf a claim is presented to the condition which would have existed if the damage had not occurred.

3. Compensation shall include reimbursement of the expenses for search, recovery and clean-up operations, including expenses for assistance received from third parties.

4. Claims for compensation for damage shall be presented and settled in accordance with the provisions of the Convention on International Liability for Damage Caused by Space Objects.

PRINCIPLE 10: Settlement of disputes

Any dispute resulting from the application of these principles shall be resolved through negotiations or other established procedures for the peaceful settlement of disputes, in accordance with the Charter of the United Nations.

PRINCIPLE 11: Relations with international treaties and agreements

The application of these principles shall not prejudice the rights and obligations of States and international organizations under international treaties and agreements.

2. Canada, the Federal Republic of Germany and France: working paper (A/AC.105/C.2/L.177 of 3 April 1990)

PRINCIPLE 3: Guidelines and criteria for safe use

In order to minimize the quantity of radioactive material in space and the risks involved, the use of nuclear power sources (NPS) in outer space shall be restricted to those space missions which cannot be operated by non-nuclear energy sources in a reasonable way.

1. General goals for radiation protection and nuclear safety

1.1 States launching space objects with NPS on board shall make every endeavour to protect individuals, populations and the biosphere against radiological hazards. The design and use of space objects with NPS on board shall ensure, with a high degree of confidence, that the hazards, in all foreseeable operational or accidental circumstances, are kept below acceptable levels as defined in paragraphs 1.2 and 1.3.

Such design and use shall also ensure with high reliability that radioactive material does not cause a significant contamination of outer space.

1.2 During the normal operation of space objects with NPS on board, including re-entry from the sufficiently high orbit (SHO) as defined in paragraph 2.2, the appropriate radiation protection objective for the public recommended by the International Commission on Radiological Protection (ICRP) shall be observed. During such normal operation there shall be no significant radiation exposure.

1.3 To limit exposure in accidents, the design and construction of the NPS systems shall accommodate relevant international guidelines especially as recommended by ICRP.

In this connection, the design for the NPS systems shall, with a high degree of confidence, restrict radiation exposure to a limited geographical region and to individuals to the principal limit of 1 mSv in a year. It is permissible to use a subsidiary dose limit of 5 mSv in a year for some years, provided that the average annual effective dose equivalent over a lifetime does not exceed the principal limit of 1 mSv in a year. Modifications of the ICRP recommendations shall be applied as they are approved.

The NPS systems shall ensure that the probability of more serious radiological consequences is extremely small.

1.4 Safety systems shall be designed, constructed and operated according to the general principle of defence in depth, which means that any foreseeable failure or malfunction of a device that is important for safety must be capable of being corrected and counteracted by another device or by another action, possibly automatic.

The reliability of safety systems shall be ensured, inter alia, by redundancy, physical separation, functional isolation and independence of their components.

1.5 Following the re-entry into the Earth's atmosphere of a space object with NPS on board, the launching State shall provide technical support to identify the location of such re-entry and the location of impact of NPS on the Earth's surface, and on request, to detect the re-entered radioactive material and to carry out retrieval or clean-up operations in accordance with Principle 7.

1.6 States launching space objects with NPS on board shall, as soon as technology permits, include a locator device which, for example, provides time of impact of NPS on the Earth's surface and to identify the launching State and the space object in question.

2. Nuclear reactors

2.1 Nuclear reactors may be operated:

(i) On interplanetary missions;

(ii) In sufficiently high orbits (SHO) as defined in paragraph 2.2;

(iii) In low Earth orbits if they are stored in SHO after the operational part of their mission.

In any case, States shall not plan to dispose of NPS by uncontrolled re-entry into the Earth's atmosphere before a sufficient decay of the fission products as defined in paragraph 2.2.

2.2 SHO is one in which the orbital lifetime is long enough to allow for a sufficient decay of the fission products to about the activity of the actinides. SHO must be such that the risks to existing and future outer space missions and of collision with other space objects are kept to a minimum. The necessity for the parts of a destroyed reactor also to attain the required decay time before re-entering the Earth's atmosphere shall be considered in determining the SHO altitude.

2.3 Nuclear reactors shall use only highly enriched uranium 235 as fuel. The design shall take into account the radioactive decay of the fission and activation products.

2.4 Nuclear reactors shall not be made critical before they have reached their operating orbit or interplanetary trajectory.

2.5 The design and construction of the nuclear reactor shall ensure that it cannot become critical before reaching the operating orbit during all possible events, including rocket explosion, re-entry, impact on ground or water, submersion in water or water intruding into the core.

2.6 In order to reduce significantly the possibility of failures in satellites with nuclear reactors on board during operations in orbit (including operations for transfer into SHO), there shall be a highly reliable operational system to ensure an effective and controlled disposal of the reactor.

3. Radio-isotope generators

3.1 Radio-isotope generators may be used for interplanetary missions and other missions leaving the gravity field of the Earth. They may also be used in Earth orbit if, after conclusion of the operational part of their mission, they are stored in a high orbit. In any case ultimate disposal is necessary.

3.2 Radio-isotope generators shall be protected by a containment system that is designed and constructed to withstand the heat and aerodynamic forces of re-entry in the upper atmosphere under all possible orbital conditions, including highly elliptical or hyperbolic orbits where relevant. Upon impact, the containment system and the physical form of the isotope shall ensure that no radioactive material is scattered into the environment so that the impact area can be completely cleared of radioactivity by a recovery operation.

4. Revision

All guidelines and criteria for safe use of NPS in outer space shall be reviewed by the Scientific and Technical Sub-Committee and the Legal Sub-Committee no later than 10 years after their adoption.

3. Canada: working paper (A/AC.105/C.2/L.154/Rev.6 of 17 April 1990)

The following is the sixth revision of the draft principles contained in working paper A/AC.105/C.2/L.154 of 25 March 1986 and reflects discussions held at the twenty-ninth session of the Legal Sub-Committee.

Principles 1, 3, 5, 6, 7 and 10 have been agreed to by the Sub-Committee.

PRINCIPLE 2: Notification of the presence on board a space object of a nuclear power source*

Each State of registry of a space object with a nuclear power source on board shall furnish to the Secretary-General of the United Nations, to the greatest extent feasible and as soon as practicable, specific information as to the presence on board that space object of a nuclear power source and its generic classification.

PRINCIPLE 4: Safety assessment*

1. States launching space objects with nuclear power sources on board shall have concluded a thorough safety assessment prior to each launch. Such assessment shall cover all relevant phases of the mission, including all systems involved and shall respect the guidelines and criteria for safe use contained in Principle 3.

2. Such States shall make the assessment publicly available prior to each launch. They shall also furnish to the Secretary-General of the United Nations information on how to obtain it.

3. Where there are two or more launching States in respect of any such space object, they shall jointly determine which one of them shall be responsible for the safety assessment requirements provided for in this Principle.

PRINCIPLE 8: Responsibility

1. In accordance with article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, States shall bear international responsibility for national activities in outer space involving the use of nuclear power sources, whether such activities are carried on by government agencies or by non-governmental entities, and for assuring that such national activities are carried out in conformity with these principles.

2. When activities in outer space involving the use of nuclear power sources are carried on by an international organization, responsibility for compliance with these principles shall be borne both by the international organization and by the States participating in it.

PRINCIPLE 9: Compensation

1. In accordance with article VII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, and the provisions of the Convention on International

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* Principles 2 and 4 should be considered together with a view to their possible amalgamation.

Liability for Damage caused by Space Objects, States launching space objects withnuclear power sources on board shall be internationally liable for damage caused by these space objects.

2. The compensation that such States shall be liable to pay for damage shall be determined in accordance with international law and the principles of justice and equity in order to provide such reparation in respect of the damages as will restore the person, natural or juridical, State or international organization on whose behalf a claim is presented to the condition which would have existed if the damage had not occurred.

3. Compensation shall also include reimbursement of the duly substantiated expenses for search, recovery and clean-up operations, including expenses for assistance received from third parties.

4. Claims for compensation for damage shall be presented and settled in accordance with the provisions of the Convention on International Liability for Damage Caused by Space Objects. Whenever a Claims Commission, as provided for in that Convention, has been established, States shall, as far as possible, agree that its decision shall be final and binding.

PRINCIPLE 11: Relations with international treaties and agreements

The application of these principles shall not prejudice the rights and obligations of States and international organizations under international treaties and agreements.

PRINCIPLE 12: Revision

These principles shall be reviewed by the Committee on the Peaceful Uses of Outer Space no later than 10 years after their adoption.

B. Organization of work

1. Letter dated 31 January 1990 from Mr. Stanislav Suja, former Chairman of the Legal Sub-Committee to Mr. Eugeniusz Wyzner, Under-Secretary-General for Conferences Services and Special Assignments

I have received a letter dated 16 November 1989 and addressed to me in my capacity as Chairman of the Legal Sub-Committee of the Committee on the Peaceful Uses of Outer Space by H.E. Ambassador Guennadi I. Oudovenko, Chairman of the Special Political Committee at the forty-fourth session of the United Nations General Assembly. By this letter Ambassador Oudovenko conveyed to me the following recommendation of the Working Group on International Co-operation in the Peaceful Uses of Outer Space of the Special Political Committee, made at the forty-fourth session of the General Assembly:

"While recognizing the competence of the Fifth Committee, the Working Group recommends that the Chairman of the Special Political Committee invite the Chairman of the Legal Sub-Committee of the Committee on the Peaceful Uses of Outer Space, bearing in mind the substantive legal objectives of the Legal Sub-Committee, to make proper arrangements with the Conference Services of the United Nations Secretariat in order to improve the efficiency of utilization of resources."

In this connection, I would like first of all to assure you that all conference services and resources provided to the Legal Sub-Committee at its annual sessions have been of the highest standard and quality, and play an important role in ensuring progress in the Sub-Committee's work.

Many of the considerations I am noting below are, I am sure, already well known to you, a prominent specialist and a distinguished former Chairman of the Legal Sub-Committee. Nevertheless, please bear with me when I set them down in some detail, since I now write to you in your present capacity.

As you know, over the years, the Legal Sub-Committee has used at each session less than 75 per cent of available conference resources, which figure has been set by the Committee on Conferences as "a minimum level of efficiency" in this area. In this regard, however, I am happy to bring to your attention a positive trend that has developed in the Sub-Committee's performance during the last few years: in 1986 it used only 42 per cent of conference resources; in 1987 - 57 per cent; in 1988 - 59 per cent; and in 1989, although official figures have not been made public yet, I was informed that the Sub-Committee used 67 per cent of conference resources.

As you are aware, the work of the Legal Sub-Committee is juridical, complex and concerns various outer space matters which are of major significance for States. Achieving progress in the Sub-Committee's deliberations is a difficult task, especially in view of a relatively large membership of 53 States, the sensitivity of questions under discussion and the decision-making by consensus. The delegates at the Sub-Committee's sessions quite often decide to resort to informal consultations in order to resolve various matters on which they fail to agree at formal meetings of the Sub-Committee or its working groups. Conference resources are not used during such consultations, which are very often required quite suddenly. While informal consultations have unavoidably reduced the overall efficiency of utilization of conference resources at each of the Sub-Committee's past sessions, on numerous occasions these same consultations considerably enhanced its legal efficiency by helping to arrive at consensus solutions. I have no doubt that the practice of holding informal consultations in the Legal Sub-Committee must continue in the interest of attaining progress in its endeavours.

The above considerations should in no way create an impression that there is no room for improving the efficiency of utilization of conference resources by the Legal Sub-Committee, and, for my part, I intend to make every effort in order to achieve this objective. Specifically, at the forthcoming session of the Sub-Committee in 1990 I am going to propose the following arrangements with this object:

(a) The Sub-Committee and its working groups should begin their meetings punctually at the scheduled time, even if there is no quorum (14 members);

(b) The Department of Conference Services should be notified as early as possible whenever it is anticipated that any of the services usually provided are not going to be required. If possible, there should be 24 hours prior notice;

(c) Informal consultations (i.e., outside the auspices of the Sub-Committee and its working groups) should not interrupt the work of the Sub-Committee or its working groups;

(d) The general rule for annexing documents to the report of the Sub-Committee should be that normally any document would be annexed, if at all, only once - to the report of the session in which it was first submitted, but not to later reports;

(e) The Sub-Committee should not have plenary meetings in the afternoon when the agenda items on nuclear power sources and on the definition of outer space/geostationary orbit are considered. Instead, the working groups on these items should meet;

(f) Delegations wishing to speak at the Sub-Committee's next plenary meeting should inform the Chairman of their intention before the adjournment of the previous plenary meeting. If no such information is received by the Chairman, the next plenary meeting of the Sub-Committee should be cancelled, and a working group should meet instead;

(g) The Sub-Committee and its working groups should seek to schedule in advance informal consultations at which conference services will not be used. For this purpose, the Sub-Committee and its working groups should decide as early as possible whether it is feasible to cancel in advance some of their formal meetings in order to have informal consultations among interested delegations. This measure, if adopted, should not preclude resorting to unscheduled informal consultations following a decision of the Sub-Committee or a working group, if such consultations are deemed necessary for attaining progress in deliberations.

Most of the above measures seem to be self-evident and require no explanation. As for measures (e) and (f), they are aimed at reducing the number of the Sub-Committee's plenary meetings in favour of working group meetings. This would lead to saving resources utilized for compiling summary records which are provided for the Sub-Committee's meetings but not for working group ones. As for specific steps to implement measure (g), I intend to propose to the Sub-Committee that six formal afternoon meetings (two for each substantive agenda item) should not be scheduled and that informal consultations should be planned instead.

I hope that the Sub-Committee will agree to my proposals, the implementation of which, I believe, will lead to better utilization of conference resources.

I would like to mention in this context that certain other ideas pertaining to the improvement of the utilization of conference resources were expressed by a

number of delegations at recent sessions of the Legal Sub-Committee and of the Committee on the Peaceful Uses of Outer Space. Some of these ideas were, for example, that the duration of future Sub-Committee sessions should be reduced and that more time should be devoted to the consideration of some substantive agenda items at the expense of others in regard to which, in the view of these delegations, the prospects for realistic and practical results were minimal. However, these ideas have been expressly opposed by some other delegations. In this situation I believe it would be inappropriate for me, as Chairman of a United Nations body working on the basis of consensus, to propose these or any other arrangements that are not likely to enjoy general support in the Sub-Committee. The more so, since it is now difficult to foresee how much time it will take in the future to deliberate on the new item in the Sub-Committee's agenda, entitled "Consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries".

In conclusion, may I reiterate once again that I shall make every effort to improve the efficiency of utilization of conference resources by the Legal Sub-Committee.

2. Schedule of meetings contained in the provisional agenda for the twenty-ninth session of the Legal Sub-Committee (A/AC.105/C.2/L.176 of 22 February 1990)

PROVISIONAL SCHEDULE OF MEETINGS a/

Date	Morning	Afternoon
Monday, 2 April	Opening of the session Statement by the Chairman	Nuclear power sources
Tuesday, 3 April	Nuclear power sources	Nuclear power sources b/
Wednesday, 4 April	Nuclear power sources	Nuclear power sources b/
Thursday, 5 April	Nuclear power sources	Nuclear power sources
Friday, 6 April	Definition/geostationary orbit	Definition/geostationary orbit
Monday, 9 April	Definition/geostationary orbit	Definition/geostationary orbit b/
Tuesday, 10 April	Adoption of the report of the NPS Working Group	Definition/geostationary orbit b/

Wednesday, 11 April	Definition/geostationary orbit	Definition/geostationary orbit
Thursday, 12 April	Outer space benefits	Outer space benefits
Friday, 13 April	HOLIDAY	
Monday, 16 April	HOLIDAY	
Tuesday, 17 April	Outer space benefits	Outer space benefits b/
Wednesday, 18 April	Adoption of the report of the Working Group on Definition/GSO	Outer space benefits b/
Thursday, 19 April	Outer space benefits	Outer space benefits
Friday,	Adoption of the report of the Sub-Committee	Adoption of the report of the Sub-Committee

Notes

a/ In accordance with established practice, some time in the first part of the session should be allocated for a general exchange of views.

b/ It is suggested that, instead of this formal meeting, informal consultations among interested delegations should be held.

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ENGLISH ONLY

COMMITTEE ON THE PEACEFUL
USES OF OUTER SPACE

REPORT OF THE LEGAL SUB-COMMITTEE ON THE WORK OF ITS
TWENTY-NINTH SESSION (2-20 APRIL 1990)

Corrigendum

The title of document A/AC.105/457 should read as above.

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